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# CANADIAN PATENT

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SKI ASSEMBLY FOR SNOWMOBILE

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②②

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PRIORITY DATE

No. OF CLAIMS 8

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ABSTRACT OF THE DISCLOSURE

A single relatively wide front ski component is mounted to the front of a snowmobile by means of a turntable. A steel plate is curved upwardly at the front end and side runners are  
5 secured to the sides of the plates thus making a stable rigid ski component which will not tip or break when the snowmobile is used in bush country and the like. The rear ends of the runners are provided with depending keels which cut into ice or hard snow and improves steering and eliminates side sway.

10     BACKGROUND OF THE INVENTION

          This invention relates to new and useful improvements  
in snowmobiles, particularly snowmobiles designed for use by  
trappers, surveyors and the like in heavy bush or similar terrain.

          Conventional snowmobiles are normally provided with a  
15     pair of skis independently spring mounted one upon each side of  
the front section and while these are satisfactory for the majority of recreational purposes, they suffer from several disadvantages when used in heavy bush or similar terrain.

          Conventional skis sink into deep snow and when used in  
20     bush or where fallen trees are prevalent, one ski often drops  
thus breaking the ski or overturning the snowmobile. Similar  
damage occurs if logs are present under soft snow and in general



such machines are not too satisfactory for commercial heavy duty use.

#### SUMMARY OF THE INVENTION

The present invention overcomes these disadvantages by  
5 providing a solid relatively wide single ski component mounted  
by means of a turntable under the front section of a snowmobile  
in place of the pair of conventional skis. The upturned curved  
prow facilitates the climbing of snowbanks, ice hummocks, fallen  
logs and the like in the bush so that the machine rides over logs,  
10 ice and the like relatively easily without danger of breakage or  
tipping being present.

The principal object and essence of the invention is  
therefore to provide a snowmobile having a single relatively wide  
rigid ski component in place of the two flexible skis normally  
15 in use.

Another object of the invention is to provide a device  
of the character herewithin described which, due to the fact the  
single ski is preferably wider than the snowmobile, eliminates  
instability from side to side.

20 Another object of the invention is to provide a device  
of the character herewithin described which with the upturned

prow on the front of the ski component, prevents the snowmobile from sinking into soft snow and facilitates the forward progress of the snowmobile over logs, ice hummocks or the like.

A still further object of the invention is to provide a  
5 device of the character herewithin described which provides a heavy duty snowmobile particularly suited for use in rugged bush or similar terrain.

Another object of the invention is to provide a device  
of the character herewithin described which is simple in construction, economical in manufacture and otherwise well suited  
10 to the purpose for which it is designed.

With the foregoing objects in view, and other such objects and advantages as will become apparent to those skilled in the art to which this invention relates as this specification  
15 proceeds, my invention consists essentially in the arrangement and construction of parts all as hereinafter more particularly described, reference being had to the accompanying drawings in which:-

#### BRIEF DESCRIPTION OF THE DRAWINGS

20 Figure 1 is a side elevation of a snowmobile with my ski component secured thereto.

Figure 2 is a top plan view of Figure 1.

Figure 3 is a side elevation of the ski component per se.

Figure 4 is a front elevation of Figure 3.

5           Figure 5 is an underside plan view of the attaching bracket for the ski component.

In the drawings like characters of reference indicate corresponding parts in the different figures.

#### DETAILED DESCRIPTION

10           Proceeding therefore to describe the invention in detail, reference character 10 illustrates generally the body portion of a snowmobile having an endless track 11 extending around a plurality of wheels 12 in the usual manner and having a seat component 13 upon the upper side of the body portion 10.

15           The front section generally designated 14 of the snowmobile includes a curved cowling 15 with a windshield 16 and a steering wheel assembly 17 just behind the cowling and this cow-

ling preferably encloses a source of power shown schematically by reference character 18 situated within the front section.

In this particularly embodiment, a transverse muffler 19 is provided which not only reduces the noise of the engine, but also may be ducted to provide heat to the occupant of the snowmobile.

A gasoline storage tank 20 is situated transversely across the rear end of the main body portion 10 and a pair of front headlamps 21 are provided together with a pair of tail lights 22 both of which make the machine a safe efficient device.

The front section or front end of the snowmobile is supported by means of a ski component collectively designated 23 and this ski component consists of a relatively heavy steel plate 24 which is substantially rectangular when viewed in plan and is provided with a curved front edge 25.

This front end is also curved upwardly to form a front prow portion 26 as clearly shown and side runners 27 are secured upon each side edge 28 of the plate and upon the underside thereof and are spaced downwardly therefrom slightly by means of side flanges 28.

Each side runner extends from the rear end 29 of the plate to adjacent the front curved end 25 thereof and these side runners also curve upwardly to follow substantially the curvature of the prow portion 26 and blend into the prow portion at the front edge or end 25 as clearly shown in Figure 3.

A transverse bar 29 extends between the flanges 28 adjacent the front ends thereof for stability purposes and may be secured by means of nuts 30.

Depending keel portions 31 are provided upon the underside of each of the side runners 27 and extend from a point intermediate the ends of the side runners indicated by reference character 32, to a point 33 just beyond the rear ends of the side runners and the depth of these keel portions increases gradually from the points 32 towards the points 33 thus facilitating stability of the assembly when used on relatively hard snow or ice.

Means are provided to mount the ski component 23 to the front section of the snowmobile and in this connection, of course, it will be appreciated that the conventional skis (not illustrated) have been removed.

The mounting posts 34 of the conventional skis are



engaged by apertures 35 situated in each end of a transverse member 36 and this transverse member is secured to the post by conventional means (not illustrated). Such means may take the form of cotter pin assemblies or bolt assemblies.

5           A turntable 37 extends between the transverse member 36 and a turntable support assembly 38 secured to the under side of the ski component and equidistant from the side edges thereof and this assembly 38 may include post 39 which engages the turntable 37 which of course may be provided with rollers or ball  
10 bearings 40 in the conventional way, and it should be stressed that the diameter of this turntable is relatively wide to give good stability and good support of the front section of the snowmobile upon the ski component 23.

          The steering wheel 17 is connected by means of a steering column 41, and gear box 42, to cables 43 on the upper side  
15 of the ski component and are adapted to steer the ski component in the conventional manner utilizing automobile steering principles. However, these are well known and it is not believed necessary to show same in further detail in this application.

20           It is desirable that the source of power 18 be controlled by a foot accelerator 43 rather than by the conventional hand throttle normally provided upon snowmobiles.

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The relatively heavy duty ski component 23 with the steel plate construction enables the snowmobile to be used in rugged terrain without tipping or breaking of ski occurring and furthermore, the fact that the steel plate is wider than the snowmobile, gives added stability to the assembly.

The upwardly curved prow portion of the steel plate prevents the machine from sinking into soft snow and allows same to ride up over rocks, logs and the like often encountered in bush country.

10 Since various modifications can be made in my invention as hereinabove described, and many apparently widely different embodiments of same made within the spirit and scope of the claims without departing from such spirit and scope, it is intended that all matter contained in the accompanying specification shall be interpreted as illustrative only and not in a limiting sense.

## WHAT I CLAIM AS MY INVENTION IS:

(1) In a snowmobile which includes a body portion and a front section on said body portion, the improvement comprising a front ski component for supporting the front section of said snowmobile, said ski component including a main plate having an upwardly curved front prow portion and a side runner adjacent each side edge of said plate and on the underside thereof, said runners being in spaced and parallel relationship, and means mounting said plate to said front section for steering action from said snowmobile.

(2) The ski component according to Claim 1 in which said means mounting said plate to said front section includes a turntable assembly between said front section and said ski component, and a steering assembly on said snowmobile operatively connected to said ski component.

(3) The ski component according to Claim 2 in which said turntable assembly includes a transverse member secured to said front section and a turntable secured between said ski component and said transverse member.

(4) The ski component according to Claim 1 in which said plate is provided with a width greater than the width of said front section to provide stability to said snowmobile.

(5) The ski component according to Claim 2 in which

said plate is provided with a width greater than the width of said front section to provide stability to said snowmobile.

(6) The ski component according to Claim 3 in which said plate is provided with a width greater than the width of said front section to provide stability to said snowmobile.

(7) The ski component according to Claims 1, 2 or 3 in which said side runners are provided with keel portions on the undersides thereof and upon the rear portions thereof, the depth of said keel portions increasing from the front ends of said keel portions towards the rear ends thereof.

(8) The ski component according to Claims 4, 5 or 6 in which said side runners are provided with keel portions on the undersides thereof and upon the rear portions thereof, the depth of said keel portions increasing from the front ends of said keel portions towards the rear ends thereof.

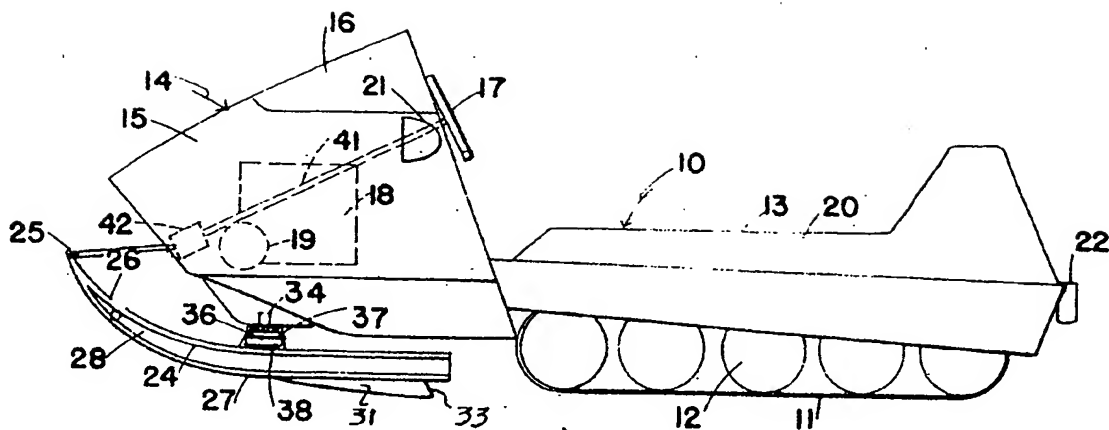


FIG. 1

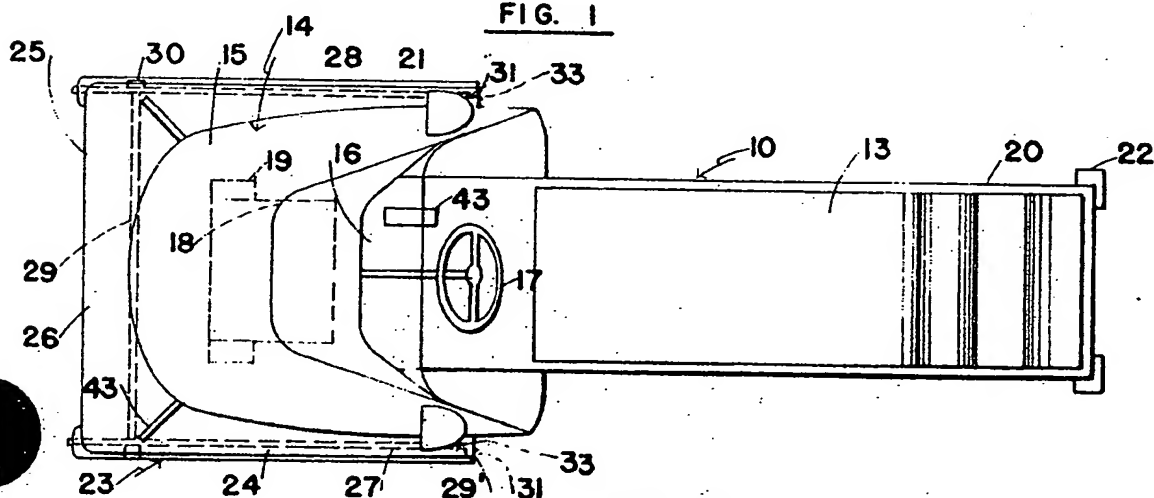


FIG. 2

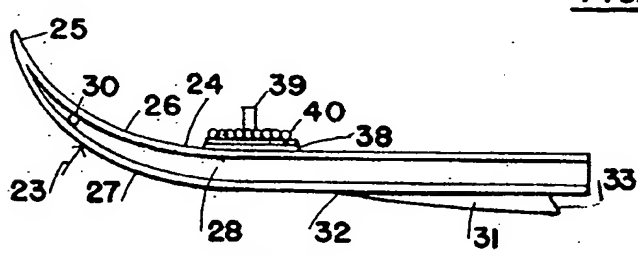


FIG. 3

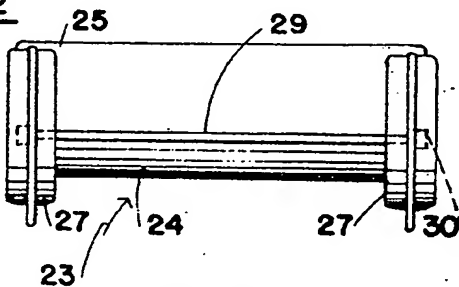


FIG. 4

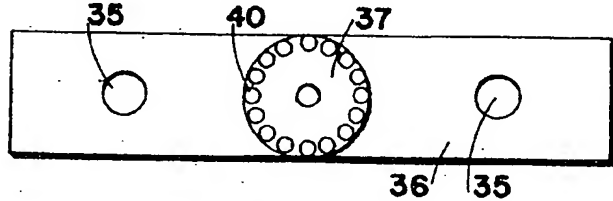


FIG. 5

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